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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,620	07/01/2004	Jigang Liu	CN 020002	4330
65913	7590	08/06/2009		
NXP, B.V. NXP INTELLECTUAL PROPERTY & LICENSING M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER NGUYEN, TUAN HOANG	
			ART UNIT 2618	PAPER NUMBER
			NOTIFICATION DATE 08/06/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/500,620	Applicant(s) LIU, JIGANG	
	Examiner TUAN H. NGUYEN	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-27, 29 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-27, 29 and 32-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 02/13/2009 has been considered by Examiner and made of record in the application file.

Election/Restrictions

2. Applicant's argument is not persuasive. Regarding applicant's argument filed on 05/27/2009 that the pending claims define the same essential characteristics of a single disclosed embodiment. The Examiner respectfully disagrees with the Applicant arguments. After careful reviewed the claims limitations, the four species are identified as below.

Species 1 - claims 1, 3 and 5-7 directed to **a transceiver for transmitting signals in a transmitting mode and for receiving signals in a receiving mode** and comprising a **single digital synthesizer driven phase locked loop**, wherein said digital synthesizer driven phase locked loop, in said transmitting mode, is in a modulating state and **receiving** a modulation signal, with said digital synthesizer driven phase locked loop, in **said receiving mode**, being in an oscillating state and receiving a non-modulation signal.

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Species 2 - claims 21-27, 29 and 32-34 directed to **a transceiver** comprising: a digital synthesizer; a phase locked loop coupled to the digital synthesizer; when the transceiver is in a transmitting mode, the digital synthesizer receives a modulation signal, **modulates a reference signal in response to the modulation signal**, and transmits the modulated reference signal to the phase locked loop; and when the transceiver is in a receiving mode, the digital synthesizer receives a non-modulation signal, **generates a non-modulated reference signal**, and transmits the non-modulated reference signal to the phase locked loop as shown in figure 1/1 of the application.

Species 3 - claim 28 directed to **a phase locked loop** for use in a transceiver, the phase locked loop comprising: **a phase detector** for receiving a one of a modulated reference signal modulated by a modulation signal and a non-modulated reference signal; **a first filter** for filtering the modulated reference signal; and **a second filter different from the first filter for filtering the non-modulated reference signal**.

Species 4 - claims 30 and 31 directed to **a digital synthesizer** for use in a transceiver, the digital synthesizer comprising: **a phase accumulator** for receiving a one of a modulation signal and a non-modulation signal.

Therefore, the restriction of the four species are maintain. However, the Applicant has selected species 2- claims 21-27, 29 and 32-34.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 21, 25, 26, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westergren (U.S. PAT. 5,423,076) in view of Watanabe (U.S. PAT. 5,319,798).

Consider claims 21, 25, 32 and 34, Westergren teaches a transceiver comprising: a digital synthesizer (58); a phase locked loop (57) coupled to the digital synthesizer (58); wherein when the transceiver is in a transmitting mode, the digital synthesizer receives a modulation signal, modulates a reference signal in response to the modulation signal, and transmits the modulated reference signal to the phase locked loop (fig. 1 col. 5 line 41 through col. 6 line 6, col.5 lines 52-57 and col. 6 lines 46-50).

Westergren does not explicitly show that wherein when the transceiver is in a receiving mode, the digital synthesizer receives a non-modulation signal, generates a non-modulated reference signal, and transmits the non-modulated reference signal to the phase locked loop.

In the same field of endeavor, Watanabe teaches wherein when the transceiver is in a receiving mode, the digital synthesizer receives a non-modulation signal, generates a non-modulated reference signal, and transmits the non-modulated

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reference signal to the phase locked loop (figs. 1 and 3 col. 1 lines 58-67 and col. 5 lines 37-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, wherein when the transceiver is in a receiving mode, the digital synthesizer receives a non-modulation signal, generates a non-modulated reference signal, and transmits the non-modulated reference signal to the phase locked loop, as taught by Watanabe, in order to provide a transceiver of such a communications system which requires a frequent switching of a transmitting signal and receiving signal and whose transmitting and receiving portions share a single PLL frequency synthesizer as their local frequency signal sources.

Consider claim 26, Watanabe further teaches the first control signal is generated when the transceiver is in a transmitting mode and the second control signal is generated when the transceiver is in a receiving mode (figs. 1 and 3 col. 1 lines 58-67 and col. 5 lines 37-59).

5. Claims 22-24, 27, 29 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westergren in view of Watanabe and further in view of Cairns (U.S. PAT. 5,794,131).

Consider claims 22, 27 and 33, Westergren and Watanabe in combination, fails to teach the digital- synthesizer and the phase locked loop form a digital synthesizer-

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driven phase locked loop, and the digital synthesizer driven phase locked loop is in a modulating state when the transceiver is in the transmitting mode and is in an oscillating state when the transceiver is in the receiving mode.

However, Cairns teaches the digital- synthesizer and the phase locked loop form a digital synthesizer-driven phase locked loop, and the digital synthesizer driven phase locked loop is in a modulating state when the transceiver is in the transmitting mode and is in an oscillating state when the transceiver is in the receiving mode (col.9 line 64 through col. 10 line 19 and col. 14 lines 46-57).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Cairns into view of Westergren and Watanabe, in order to establish a certain predetermined frequency relationship between these two signals it is possible to precisely locate the frequencies of the undesirable mixer output products so that they can be filtered out and/or fall onto the desired output frequency.

Consider claim 23, Cairns further teaches the phase locked loop performs a first filtering performance when the transceiver is in the transmitting mode and performs a second filtering performance different from the first filtering performance when the transceiver is in the receiving mode (col.9 line 64 through col. 10 line 19 and col. 14 lines 46-57).

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Consider claims 24 and 29, Cairns further teaches the phase locked loop performs a first filtering performance in response to a first control signal and performs a second filtering performance different from the first filtering performance in response to a second control signal (col.9 line 64 through col. 10 line 19 and col. 14 lines 46-57).

Conclusion

6. Any response to this action should be mailed to:

Mail Stop_____ (Explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

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Facsimile responses should be faxed to:

(571) 273-8300

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571)272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571)272-7882882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tuan H. Nguyen/
Examiner
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